

# Biotechnology Technologist – Forensics



Fleming College

**Program Code:** BTF

**Credential:** Ontario College Advanced Diploma

**Start Date:** September, January

**Location:** Peterborough

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## PROGRAM HIGHLIGHTS

With a career in forensic biotechnology, you have diverse employment opportunities, from working in medical or health-related fields, to tracking down criminals or identifying victims of crime. Laboratory related occupations are among the fastest growing occupations in the economy. With specialization in Forensics/DNA, this program is unique and graduates are in demand in this emerging field. This advanced diploma program would traditionally take six semesters to complete. However, the program has been designed in an accelerated, compressed format, to provide six semesters of course work over five semesters.

In their final, fifth semester, students can complete their full-time internship from April to August – giving graduates the advantage of getting out into the workforce faster. (Should they so choose, students may defer the summer internship until the fall.) Courses in the program integrate theory and practice opportunities in labs and practice settings. Graduates will be critical thinkers with problem-solving abilities, strong interpersonal, teamwork and communication skills and a solid foundation in forensic/DNA/medical applications.

## WHY CHOOSE FLEMING

This cross-disciplinary program combines elements from the life sciences, applied computing, forensic science, automation, policing and lab methods, and business skills. This gives graduates the benefit of having the multiple, job-ready skills that employers are seeking. The program has been developed in response to identified industry needs and a skills shortage in this field. Today's lab environment requires technicians with skills in information technology, data management and data analysis. The college has programs, courses and faculty who specialize in these areas, as well as state-of-the-art technology to support the use of applied technology in laboratory environments. The college's School of Law, Justice and Community Services is a partner in the development and delivery of the Trent University Honours Bachelor of Forensic Science degree. Students will benefit from Fleming's growing faculty expertise in this field. As well, Fleming College is a founding partner in the Peterborough DNA Cluster. This strategic alliance between local private and public sector partners was created to advance local research of DNA and forensic science and develop economic growth opportunities, new technology businesses and jobs for the Peterborough region.

## WORK EXPERIENCE

A 15-week internship will immerse students in the work culture of a lab environment, give them the opportunity to seek experience in an area of specialization, and promote networking and awareness of the industry and job potential.

## IS THIS YOU?

To succeed in this occupation, you need the following characteristics:

- curiosity and imagination
- persistence and willingness to work long hours
- willingness to do the reading required to keep up to date with new developments and discoveries.

In addition, you should enjoy synthesizing information, finding innovative solutions to problems and working with equipment and instruments at tasks which require precision. You'll likely work in a team environment, so good interpersonal and communications skills are an asset.

## CAREER OPPORTUNITIES

Program graduates will be qualified to work in a variety of roles, such as DNA analyst, DNA technician/technologist, evidence technician, laboratory technologist, forensic technologist, serologist, and biotechnician/technologist. Employment settings include:

- private sector laboratories
- law enforcement forensic labs
- hospitals and clinical settings
- pharmaceutical, bio-pharmaceutical and biotechnology research and development companies
- government agencies such as the Canadian Centre for Forensic Science, the RCMP and OPP forensic labs
- university laboratories
- municipal waste water and drinking water treatment facilities
- application of pollution prevention, waste minimization, and water recycling
- microbiological testing facilities
- laboratory analysis to test food products
- plant and animal pathogen analysis
- animal science, aquaculture, wildlife management and restoration
- agricultural biotechnology research, breeding and selection
- laboratory services following ISO 17025 standards.

Emerging career fields include microbial forensics and its applications to bio-terrorism and microbial disease. Program graduates can pursue further specialization and seek accreditation with regulating bodies such as the

Ontario Association of Certified Engineering Technicians and Technologists (OACETT).

## MINIMUM ADMISSION REQUIREMENTS

Higher Secondary Certificate or Standard XII with a minimum 50% average. Minimum English language proficiency: IELTS: 6.0.

## RELATED PROGRAMS

If you don't possess the required science courses for admission to this program, or if you want to enhance your likelihood for entry, consider the one-year General Arts and Science – College Health Science Option. Fleming College has reserved space in the Biotechnology Technologist – Forensics program for students who successfully complete one year of study in this program.

### BIOTECHNOLOGY TECHNOLOGIST – FORENSICS

| CURRICULUM PROGRAM                                      | CODE     |
|---|----------|
| <b>SEMESTER 1</b>                                       |          |
| Biology I   | SCIE0009 |
| Chemistry I   | SCIE0131 |
| Forensic DNA Applications I                             | SCIE0089 |
| Introduction to Canadian Justice System                 | LAW50044 |
| Introductory Computing                                  | COMPO345 |
| Laboratory Math   | MATH0114 |
| Technical Communications                                | COMM0032 |
| <b>SEMESTER 2</b>                                       |          |
| Biology II  | SCIE0010 |
| Chemistry II  | SCIE0132 |
| Data Management and Analysis                            | COMPO222 |
| Forensic DNA Applications II (Integration)              | SCIE0090 |
| Forensic Techniques                                     | LAW50246 |
| Laboratory Physics                                      | SCIE0093 |
| General Education Elective                              |          |
| <b>SEMESTER 3</b>                                       |          |
| Business for Biotechnology                              | BUSN0056 |
| Forensic DNA Applications III (Integration)             | SCIE0091 |
| Laboratory Automation I                                 | AUTM0068 |
| Laboratory Operating Standards and Quality Assurance I  | SCIE0100 |
| Microbiology  | SCIE0094 |
| Molecular Biology                                       | SCIE0095 |
| General Education Elective                              |          |
| <b>SEMESTER 4</b>                                       |          |
| Biochemistry  | SCIE0096 |
| Forensic Chemistry                                      | SCIE0146 |
| Forensic DNA Applications IV (Integration)              | SCIE0092 |
| Laboratory Automation II                                | AUTM0069 |
| Laboratory Ethics                                       | SOCIO153 |
| Laboratory Operating Standards and Quality Assurance II | SCIE0101 |
| Pharmacology and Toxicology                             | SCIE0102 |
| <b>SEMESTER 5</b>                                       |          |
| Internship (BTF)  | FLPLO097 |